

PROVISIONAL SUNSPOT RELATIVE NUMBERS FOR THE FIRST HALF OF 1926

(Reprint from A. Wolfer, in *Meteorologische Zeitschrift*, April and July, 1926)

1926	Jan.	Feb.	Mar.	Apr.	May	June	1926	Jan.	Feb.	Mar.	Apr.	May	June
1.....	93			35	62	62	18.....		85	70	63	71	52
2.....		42	68	30	53	73	19.....			69	75	80	50
3.....	60	38	103	29	56	45?	20.....		67	46	58	63	52
4.....	37	41	103	29	68		21.....	103	59	38	41	75	44
5.....		34	119	22	86	80	22.....		41		35	67	37
6.....	56	29		23	53?		23.....	102	48		147	40	52
7.....	52	35	100	30	74	95	24.....		49	35	14	27	55
8.....	76	44		27	102	86	25.....	124	64	37	16	31	
9.....	90		82	49	92	92	26.....			45		22	86
10.....	92		63	29	88	88	27.....	78	53	45?	14	23	88
11.....	84	99	47	34	93	94	28.....	40?			19	43	99
12.....	69	97?		37	89	62	29.....			30	41	54	106
13.....	57	142	45	58		75	30.....	48		31	39	52	109
14.....	55	150	58	71	60?	80	31.....	21				50	
15.....		162	89	65	86	57							
16.....			107	69	84	65	Means..	71.6	69.0	63.6	39.1	63.6	71.6
17.....	94		79	69	65?	48							

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A RELATION BETWEEN HIGH RATES OF EVAPORATION AND WESTERN YELLOW TOMATO BLIGHT

In *Phytopathology* for August, 1925, Mr. Michael Shapovalov presents the results of an investigation into this subject. The following excerpts embody the conclusions reached:

In the case of western yellow tomato blight, a certain seasonal march of evaporation means a definite progress of blight in the same season. This disease causes serious annual losses to the growers over a large territory extending west of the Rocky Mountains to the Pacific coast and from British Columbia to the west coast of Mexico, but the actual annual damage fluctuates according to seasonal conditions. The summer of 1924 was marked by a particularly severe outbreak of western blight in a number of widely separated regions of the West and for this reason is especially interesting. This outbreak correlates with an unusually high evaporation in all those sections in which it occurred. * * * The rate of evaporation in 1924 was in every case above the average of a number of preceding years. * * * The amount of the disease in California varied from practically nothing in humid regions near the coast to nearly 100 per cent in localities with a high rate of evaporation. * * *

The most striking correlation between the amount of blight and the rate of evaporation was observed on the experimental plots at Shafter, Calif., and at Riverside, Calif., where counts of blighted plants were made throughout the season. The disease developed slowly and in very small amounts with the lowest evaporation curve at Riverside in 1923. It was more severe in 1924 when the evaporation was higher, but the most serious attack and in much shorter time developed with the highest rate of evaporation at Shafter in 1924.

The comparison of the percentages of blight at Riverside and at Shafter in 1924 indicates that the rate of evaporation is not only concomitant with the severity of blight in different seasons in the same locality, but also correlates with its geographical distribution. * * *

Blight areas during the principal blight period seem to have the average monthly humidity below 35 per cent, while nonblight areas about or above 50 per cent. The extremes for each group are to be found in the San Joaquin Valley for the former, and near Vancouver and San Diego for the latter. High evaporation is not only attendant on, but also foreruns severe spells of blight, especially at the outset of the season. * * * Detailed weekly observations (at both Riverside and Shafter in 1924) from the time the plants were set out in the field show very distinctly that the first serious waves of the disease were preceded by marked rises in the rate of evaporation.

METEOROLOGICAL SUMMARY FOR SOUTHERN SOUTH AMERICA, JUNE, 1926

By J. BUSTOS NAVARRETE, Director

[Observatorio del Salto, Santiago, Chile]

The month of June was the rainiest recorded in the central zone of Chile since the year 1873 to date. In the comparative table herewith are given the amounts of precipitation for the very rainy Junes since 1873 at

Santiago. In the other years the June rainfall was less than 100 millimeters.

Year	Milli-meters	Inches	Year	Milli-meters	Inches	Year	Milli-meters	Inches
1880.....	234.6	9.23	1890.....	235.4	9.27	1912.....	124.5	4.90
1887.....	159.8	6.29	1900.....	130.3	5.25	1914.....	205.5	8.09
1888.....	127.0	5.00	1901.....	109.7	4.31	1919.....	139.5	5.49
1891.....	149.3	5.88	1902.....	150.4	6.08	1922.....	215.8	8.49
1898.....	243.0	9.57	1905.....	186.0	7.32	1926.....	442.4	17.40

The month was characterized by very active atmospheric circulation. Between the 3d and 5th a large depression affected the country between Coquimbo and Chiloe, with violent winds and rains. The maximum precipitation in 24 hours was observed on the 5th at Talca, 53 mm. From the 6th to the 8th there was a temporary calm.

On the 9th an enormous depression appeared in the west. On the 10th the storm broke over the whole central zone, affecting mostly the port of Valparaiso. Precipitation varied between 20 and 30 mm. On the 11th it was again calm.

On the 12th another depression affected the southern zone of Chile. It rained in torrents. At Valdivia was observed the maximum precipitation in 24 hours, 137.8 mm. This caused high river stages and floods. Weather from the 13th to 15th was unsettled.

On the 16th a large depression appeared off the central zone of Chile, and between the 17th and 20th there developed a period of general bad weather, with violent winds and torrential rains. Floods occurred in the central zone and rivers were out of their banks. At Santiago the maximum precipitation for 24 hours (on the 18th) was more than 70 mm.

Between the 21st and 24th there was a stationary depression off Punta Tumbes, which caused renewed bad weather with rains between Aconcagua and Valdivia. Maximum precipitation in 24 hours was 73 mm. on the 23rd at Punta Tumbes. On the 24th the depression filled up, in harmony with the laws of Guilbert.

The 25th was fine, and the 26th cloudy with a cold wave.

From the 27th to the 30th another enormous depression affected the country, developing a new period of bad weather. At Punta Tumbes the wind velocity exceeded 1,700 m/m (63 m/h), and there were heavy breaking seas. It rained in torrents from Coquimbo to Chiloe. There was a general rise of the rivers from Aconcagua to Maullin, and renewed floods.

To summarize, the month of June, 1926, was the rainiest and stormiest which has been recorded in Chile since the beginning of meteorological observations.—*Transl. B. M. V.*

METEOROLOGICAL SUMMARY FOR BRAZIL, MAY AND JUNE, 1926

By FRANCISCO SOUZA, Acting Director

[Directoria de Meteorologia, Rio de Janeiro]

May.—The atmospheric circulation in the lower strata remained abnormal during the month; the continental depression was very active, as were also those of high latitudes.

The anticyclones which invaded the southern part of the country moved less directly from south to north than usual, whence the fact that the temperatures were more moderate than those of the previous month.

In the northern part of the country, rains were scant, their mean being 2.8 mm. below normal. In the central part, the observed rainfalls were somewhat above their respective normals, the average plus departure being 53.1 mm. The rains in the south were scattered.

Progress of crops remained in general good, though the yields were irregular. Due to deficiency of rainfall in the north, the yield of beans was reduced, as also that of corn, which in some places was 50 per cent short.

The state of the weather in Rio de Janeiro was in general mild. Cloudiness was slightly below normal. Temperatures remained somewhat low, giving values which were on the whole a little below the respective normals. South to east winds of moderate velocity prevailed. On the early morning of the 15th, there was a heavy squall from WSW. with a maximum velocity of 19 m/s.

June.—The secondary circulation remained rather active, the country having been swept by five anticyclones which moved along inland paths and in low latitudes and caused noticeable drops in temperature. Frosts

were observed rather generally in the southern part of the country during the second half of the month.

For the country as a whole, rainfall was not very abundant, almost all the totals remaining below their respective normals. Due to rainfall deficit in the Amazon Basin, navigation on the rivers of that region was seriously interrupted, resulting in great detriment to commerce.

The progress of coffee, cotton, cane, rice, tobacco, wheat, corn and beans remained satisfactory, while the yield of cotton and cane were excellent. Coffee suffered a little from frosts during the latter days of the month; yields were, however, normal.

The weather in Rio de Janeiro was in general good, there being recorded only five cloudy days and three days with measureable precipitation. Mean temperature remained somewhat above normal, notwithstanding the fact that the mean minimum was 0.2 of a degree below normal.—*Transl. W. W. R. and B. M. V.*

BIBLIOGRAPHY

C. FITZHUGH TALMAN, Meteorologist in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Argentina. Oficina meteorológica.

Pronóstico del estado del tiempo para la semana que empieza el día 18 de Marzo de 1926, capital federal y region del Río de La Plata. n. p. n. d. 1 sheet. 49½ cm.

Cave, C. J. P.

Clouds & weather phenomena, for artists and other lovers of nature. Cambridge. 1926. x, 29 p. fig. plates. 19½ cm.

Cotsworth, M[oses] B.

Calendar defects and how to remedy them. Washington. n. d. [4p.] illus. 26½ cm. (Internat. fixed calendar league, pamphlet "A.")

Calendar reform. Washington. n. d. 19 p. 26½ cm. (Internat. fixed calendar league. Pamphlet "B.")

Dorno, Carl.

Beiträge zur Kenntnis des Sonnen- und Quarzlicht-Erythems und -Pigmentes. p. 70-91. 24½ cm. (Sonderab.: Strahlentherapie, Bd. 22, 1926.)

Die Grundlagen der Klimatotherapie. Leipzig. 1926. p. 367-382. figs. 26½ cm. (Sonderab.: Handb. der prakt. Therapie als Ergebnis exper. Forschung. Bd. 1.)

Das physikalisch-meteorologische Observatorium in Davos. p. 215-230. plates. 23 cm. (Erweiterten Jahresbericht der naturforschenden Gesellschaft Graubündens zur Feier des 100 jährigen Bestandes, neue Folge. 64. Bd. Vereinsjahr 1925/26.)

Greenburg, Leonard.

Studies on the industrial dust problem. no. 1. Dust inhalation and its relation to industrial tuberculosis. Washington. 1925. 19 p. 23½ cm. (U. S. Public health serv. Pub. health reports. Repr. no. 990. Feb. 13, 1925.)

Hamburg. Deutsche Seewarte.

Obere Wolken; untere Wolken. [Hamburg. 1926.] 2 charts. 44 x 67½ cm.

[Kassner, Carl.]

Schienenfata na Petr Beron po meteorologii. Sofiã. 1926. 7 p. fig. 26½ cm. (Otdielen otpechatk ot "Soornik d-r. P. Beron.")

Loewy, A., & Dorno, C.

Ueber Haut- und Körpertemperaturen und ihre Beeinflussung durch physikalische Reize. p. 14-29. fig. 24½ cm. (Aus dem Institut für Hochgebirgs-Physiologie und Tuberkuloseforschung in Davos.) II. Teil, Originalarbeiten.

Marvin, Charles F., & Cotsworth, Moses B.

Moses, the greatest of calendar reformers. Washington. n. d. 32 p. illus. 27 cm. (Internat. fixed calendar league, pamphlet "C.")

National storm insurance bureau.

Storm insurance of property. Tornado & hailstorm hazards. Finley system. New York. 1920. 9 charts. 29½ cm.

Schreiber, Paul.

Wärmemechanik wasserhaltiger Gasgemische mit den Hilfsmitteln der Flächennomographie bearbeitet. Braunschweig. 1925. viii, 195 p. figs. plates (fold.) 24½ cm.

Simpson, G. C.

Climatic changes. p. 129-141. 26 cm. [Nineteenth century, London. v. 99, Jan., 1926.]

On lightning. p. 56-67. figs. plate. 25½ cm. (Proc. Roy. soc., A, v. 3, 1926.)

Union of South Africa. Drought investigation committee.

Final report. October, 1923. Cape Town. 1923. 222 p. figs. maps. 33½ cm.

Vercelli, Francesco.

Ricerche di oceanografia fisica. Pte. 2. Ricerche di ottica marina. Pte. 3. Condizioni meteorologiche durante la crociera. Genova. 1926. 78 p. illus. 32½ cm. (Campana idrografico-scientifica nel Mar Rosso R. N. "Amiraglio Magnaghi" 1923-24.) (Ist. idrog. della R. Marina Est. Annali idrog. v. 11.)

Visher, Stephen S., & Hodge, D.

Australian hurricanes and related storms, with an appendix on hurricanes in the South Pacific. [Melbourne. 1925.] 54 p. illus. plates. 30½ cm. (Australia. Commonwealth bureau of meteorology. Bulletin no. 16.)

Vladivostok meteorological observatory.

Precipitation of Maritime province. Vladivostok. 1925. iv, 59 p. chart. 34 cm. [Text in Russian and English.]

Walker, Gilbert, & Bliss, E. W.

On correlation coefficients, their calculation and use. p. 73-84. figs. 25 cm. (Quart. journ. Roy. met. soc., v. 52, Jan., 1926.)

Warsaw. Wydawnictwa ministerstwa rolnictwa i dóbr państwowych.

Prace meteorologiczne i hydrograficzne. (Études météorologiques et hydrographiques.) Warszawa. 1924. 106 p. figs. 28½ cm. (Text in Polish, résumé in French.)

RECENT PAPERS BEARING ON METEOROLOGY

The following titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

Aero digest. New York. v. 9. July, 1926.

Moffett, William A. Weather and the national defense. p. 9; 74.